

SHIRIN, P.K., kand.tekhn.nauk; SKOPIN, G.A., nauchnyy sotrudnik. Printsipi uchastiya: ANTONOV, V.I., inzh.; ZELENNIN, S.S., inzh.; BOGUSHEVICH, Ye.N., inzh.; KLIMOVA, G.D., red.isd-vo; GOL'BERG, T.M., tekhn.red.

[Norms RN-1-60 for drawing-up plans for the organization of construction] Raschetnye normativy dlia sostavleniia proektov organizatsii stroitel'stva RN-1-60. Moskva, Gos.isd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1960. 98 p.

(MIRA 13:12)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
  2. Rukovoditel' Sektora organizatsii promyshlennogo stroitel'stva i tekhnologii proizvodstva rabot Nauchno-issledovatel'skogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu (for Shirin).
  3. Otdel ekonomiki i organizatsii stroitel'stva Gosstroya SSSR (for Antonov, Zelenin, Bogushevich).
- (Construction industry)

ARKHANGEL'SKIY, I.I.; ANTONOV, V.K.

Variability of the anthrax bacillus. Izv.AN Kazakh.SSR. Ser.kraev.  
pat. no.6:11-17 '50. (MIRA 9:8)

(BACILLUS ANTHRACIS)

ANTONOV, V.K.

Variability of Brucella and prospects for producing vaccinal  
strains. Trudy Inst.kraev.pat.AN Kazakh.SSR 6:3-13 '58.  
(MIRA 12:6)

(BRUCELLA)

USSR/Chemistry - Plant Growth Stimulants 11 Jun 52

"The Synthesis of Methyl-Substituted gamma-(3-Indolyl)-Butyric Acids," N. M. Suvorov, V. K. Antonov

"Dok Ak Nauk SSSR" Vol XXXIV, No 5, pp 971 - 974

Since 1948, work on the synthesis of gamma-(3-indolyl)-butyric acids has been systematically going on at the Chair of Org Chem, Moscow Chem-Tech Inst Imeni D. I. Mendeleev under the direction of Acad V. M. Rodionov for the purpose of explaining the connection between the structure of these compd and their physiol activity. In 1949 a general method for the synthesis of gamma-(3-indolyl)-butyric acids was worked out. 223714

This method was used in the present work for the synthesis of methyl substituted gamma-(3-indolyl)-butyric acids. All of the methylindolylbutyric acids were tested as stimulants for root growth in bean buds at the Inst of Plant Physiol Imeni K. A. Timiryazev, Acad Sci USSR. These tests showed that gamma-[3(2-methylindolyl)]-butyric acid is an active stimulant for root growth and by activity is close to gamma-(3-indolyl)-butyric acid. Gamma-[3(7-methylindolyl)]-butyric acid brings on unusually strong fission of the stalks and not only does not stimulate, but retards root growth. Gamma-[3(1-methyl- and 2-methylindolyl)]-butyric acids do not act on the stalks. It may be noted that substitution of hydrogen at the

(2)

223714

methyl group in the benzene ring of gamma-(3-indolyl)-butyric acid results in physiologically active compds; analogous substitution in the pyrrole ring results in loss of physiol activity. Presented by Acad V. M. Rodionov 7 Apr 52. 223714

ANTONOV, V. K.

USSR/Chemistry - Plant Growth  
Stimulants

21 Aug 53

"The Synthesis of Phenyl-substituted  $\gamma$ -(3-Indolyl) butyric Acids," N. N. Suvorov, V. K. Antonov and Ye. M. Rokhlin, Moscow Chemicotechnol Inst im D. I. Mendeleyev

DAN SSSR, Vol 91, No 6, pp 1345-1348

Studied the effect of introducing a phenyl group into indolylbutyric acid on the physiol activity of the latter in regard to growth stimulation. Found that  $\gamma$ -[3-(5-phenylindolyl)] butyric acid is an active stimulator of root formation. Concludes that

269T11

---

introduction of a phenyl group into the benzene nucleus of indolylbutyric acid leads to an active compd. Presented by Acad V. M. Rodionov 24 Jun 53.

ANTONOV, V. K.

ANTONOV, V. K.--"Synthetic Investigations in the Field of Gamma-(Indolyl-3)-Butyric Acid and Its Derivatives." Min Higher Education USSR. Moscow Order of Lenin Chemicotechnological Inst imeni D. I. Mendel-eyev. Moscow, 1955. (Dissertation for the Degree of Candidate in Chemical Science).

SO Knishnaya letopis'  
No 2, 1956

AUTHORS: Braz, G. I., Antonov, V. K.,  
Kurdyumova, K. N.

SOV/79-28-11-16/55

TITLE: On Some Ethylenimino-1,3,5-Triazines (O nekotorykh etilen-  
imino-1,3,5-triazinakh)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11,  
pp 2972 - 2977 (USSR)

ABSTRACT: As is known, for the past 6 years the 2,4,6-triethylen-  
imino-1,3,5-triazine (TET) has been already used as  
a medical preparation against new growths; its use  
is, however, limited as it has very high toxic  
effects. With the intention of finding compounds with  
higher chemotherapeutical efficiency the authors  
synthesized already earlier (Ref 1) the compounds  
(I)-(X) which have a similar structure as TET, and  
have two ethylenimine residues as well as a substituted  
amino, alkoxy, or alkyl mercapto group. These compounds  
were obtained by the condensation of the 2,4-diethylen-  
imino-6-chloro-1,3,5-triazine with the corresponding  
amines or sodium alcoholates and sodium mercaptides  
in anhydrous solvents. Some amino diethylenimino

Card 1/2

On Some Ethylenimino-1,3,5-Triazines

SOV/79-28-11-16/55

triazines were synthesized by the condensation of the 2-amino-4,6-dichloro-1,3,5-triazine with ethylenimine for reasons of comparison. According to this method also the compound (I) obtained already by American scientists in another way was synthesized. The synthesized ethylenimino triazines are white crystalline products and are stable at low temperatures. Only the compound (II) is an exception as it could not be obtained in crystalline state. The results of the biological investigations have not yet been obtained. There are 4 references, 2 Soviet references.

ASSOCIATION: Institut eksperimental'noy patologii i terapii raka Akademii meditsinskikh nauk SSSR ( Institute of Experimental Pathology and Cancer Therapy of the Academy of Medical Sciences, USSR)

SUBMITTED: September 28, 1957

Card 2/2

AUTHOR: Antonov, V. K. SOV/79-29-1-64/74

TITLE: Reaction of Amines With Methyl- $\alpha$ -bromo Acrylate (Vzaimodeystviye aminov s metilovym ofirom  $\alpha$ -bromakrilovoy kisloty). Synthesis of Some Derivatives of  $\alpha$ -Bromo- $\beta$ -amino Acids (Sintez nekotorykh proizvodnykh  $\alpha$ -brom- $\beta$ -aminokislot)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 306-309 (USSR)

ABSTRACT: In 1943 Cromwell and collaborators showed (Ref 1) that in benzene solution  $\alpha$ -bromo- $\beta$ -phenyl- $\beta$ -benzyl aminopropiophenone (I) disproportionates and that in this connection the bromine hydrate of  $\alpha$ -bromo- $\beta$ -phenyl- $\beta$ -benzyl aminopropiophenone and 1-benzyl-2-phenyl-3-benzoylethylenimine (II) is formed (Scheme 1). The authors used this reaction for the synthesis of the hitherto little investigated bromine hydrates of  $\alpha$ -bromo- $\beta$ -amino acids (Refs 2-4) and the corresponding derivatives of ethylenimino carboxylic acids. Therefore, they investigated the reaction of methyl- $\alpha$ -bromo acrylate (III) with the same molecular amounts as methyl amine, benzyl amine and piperidine which quite expectedly is to proceed according to scheme 2. It was found that in this connection the corresponding bromine hydrates of the methyl esters of  $\alpha$ -bromo- $\beta$ -

Card 1/2



SOV/79-29-1-64/74  
Reaction of Amines With Methyl- $\alpha$ -bromo Acrylate. Synthesis of Some Derivatives  
of  $\alpha$ -Bromo- $\beta$ -amino Acids

alkyl aminopropionic acids result. The author synthesized the bromine hydrates of methyl- $\alpha$ -bromo- $\beta$ -methyl amino-,  $\alpha$ -bromo- $\beta$ -benzyl amino- and  $\alpha$ -bromo- $\beta$ -piperidino-propionates in yields of 43.72 and 80%, respectively (calculated for bromine). These bromine hydrates so far have not been described yet in publications. The structure of the compounds obtained was confirmed by the quantitative determination of the  $\alpha$ -bromine atom. The bromine hydrate of methyl- $\alpha$ -bromo- $\beta$ -benzyl amino-propionate was also obtained by action of dry hydrogen bromine in 1-benzyl-2-carbomethoxy ethylenimine. There are 11 references, 1 of which is Soviet.

ASSOCIATION: Institut eksperimental'noy patologii i terapii raka Akademii meditsinskikh nauk SSSR (Institute of Experimental Cancer Pathology and Therapy of the Academy of Medical Sciences, USSR)

SUBMITTED: October 15, 1957

Card 2/2

5(3)

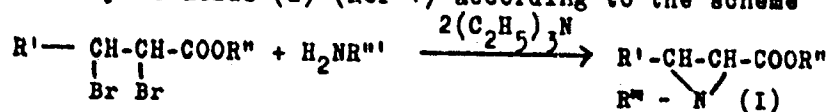
AUTHOR: Antonov, V. K.

SOV/79-29-4-19/77

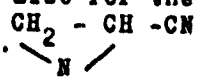
TITLE: Some 2-Cyanoethylenimines and Nitriles of  
 $\alpha$ -halogen- $\beta$ -amino acids (Nekotoryye 2-tsianetileniminy  
i nitrily  $\alpha$ -galoid- $\beta$ -aminokisloty)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1132-1135  
(USSR)

ABSTRACT: The author used the method devised by M. A. Stolberg and  
coworkers for the synthesis of the esters of ethylenimine  
carboxylic acids (I) (Ref 1) according to the scheme



also for the synthesis of 1-alkyl-2-cyanoethylenimines (II)



(II), where  $\text{R} = \text{CH}_2\text{C}_6\text{H}_5, \text{C}_6\text{H}_{11}, \text{CH}_3, \text{CH}(\text{CH}_3)_2$ . These

Card 1/3

Some 2-Cyanoethylenimines and Nitriles of  
 $\alpha$ -halogen- $\beta$ -amino acids

SOV/79-29-4-19/77

compounds have so far not been known. The author condensed the nitrile of  $\alpha, \beta$ -dibromo-propionic acid with benzyl-, cyclohexyl-, methyl- and isopropyl amine. Yields, constants and analyses of the compounds obtained are given in table 1. The reaction characteristic of the three-membered ethyleneimine ring is the cleavage with hydrohalic acids. In dependence of the nucleophilic capability of the substituents the cleavage can take place in two directions (Refs 1, 2, 3) (Scheme 2). In the case of the imines (II) the formation of the bromohydrates of the nitriles of  $\alpha$ -bromo- $\beta$ -alkyl-amino-propionic acids had to be expected on the action of hydrobromic acid in ether solution, which really took place (Table 2). By the reaction of benzyl-, cyclohexyl-, isopropyl- and methyl amine with the nitrile of  $\alpha, \beta$ -dibromo-propionic acid 1-benzyl-, 1-cyclohexyl-, 1-isopropyl- and 1-methyl-2-cyanoethylenimine were obtained, accordingly. On the influence of dry HBr upon 2-cyanoethylenimine the corresponding bromine hydrates of  $\alpha$ -bromo- $\beta$ -alkylamino-propionic acid nitriles were formed. By the saponification of 1-cyclohexyl-2-cyanoethylenimine

Card 2/3

Some 2-Cyanoethylenimines and Nitriles of  
 $\alpha$ -halogen- $\beta$ -amino acids

SOV/79-29-4-19/77

with aqueous alcoholic alkali liquor the amide of  
1-cyclohexyl-ethylenimino-2-carboxylic acid was obtained.  
The structure of the compounds synthesized was confirmed by  
the detection of the mobile  $\alpha$ -bromine atom i. e.  
from the formation of  $J_2$  from the acidified  
solution of potassium iodide (Refs 3, 4, 6) in alcohol  
and acetone. There are 2 tables and 6 references, 1 of  
which is Soviet.

ASSOCIATION: Institut eksperimental'noy patologii i terapii raka  
Akademii meditsinskikh nauk SSSR (Institute of Experimental  
Cancer Pathology and Therapeutics of the Academy of  
Medical Sciences, USSR)

SUBMITTED: March 6, 1958

Card 3/3

L 12337-63

MAY

S/081/63/000/005/037/075

45

AUTHOR: Bras, G. I., Antonov, V. K. and Kudryumova, K. N.

TITLE: 2-replaceable 4,6-diethylenimino-1,3,5 triazines

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 5, 1963, 251, abstract 5Zh249  
(Tr. In-ta eksperm. i klinich. onkol. AMN SSSR, 1960, no. 2, 124-127)

TEXT: Through condensation of 2-R-4,6-diethylenimino-1,3,5-triazine (I) (R = Cl), (Ia) with corresponding alcoholate or mercaptide of Na I (R = alkoxy or alkylmercaptide) were synthesized. I (R = N-substituted amino) is obtained by two methods. Method A: cyanure chloride (II) is condensed with amine and introduced into reaction with ethylenimino (III). Method B: Ia is obtained from II and III, in which the atom of chlorine is replaced by the primary or secondary amine radical. 0.37 g of Na is heated with 5 ml of xylol to boiling, crushed Na is added, it is cooled and 3.1 g of  $\beta$ -ocyethylpiperidine is added, it is heated for 2 hours at 70°C, cooled again and 3 g of Ia are added. It is again boiled for 2 hours and filtered. The filtrate is steamed in a vacuum without heating. 2.3 g of the residue are dissolved in ether. After partial concentration by steaming, I is obtained from the filtrate  $\overline{R} = \beta$ -(N-piperidino)-ethoxy with a yield of 39%, m.p.

Card 1/3

L 12337-63

S/081/63/000/005/037/075

2-replaceable 4,6-diethylenimino- ....

111 - 112°C. Similarly, I is obtained (the data below give R, yield in %, m.p. in °C): (C<sub>2</sub>H<sub>5</sub>)NCH<sub>2</sub>CH<sub>2</sub>O, 65, 61.5 - 62.5 (from petr. ether); ~~β~~-(N-morpholino)-ethoxy, 47.4, 143 - 145 (from acetone). To 0.38 g of crushed Na in 5 ml of xylol in N<sub>2</sub> atmosphere 2 g benzyl mercaptane are gradually added. The mixture is heated for 2 hours at 70°C (Glycerin bath), it is cooled and 2.53 g of Ia in 53 g of C<sub>6</sub>H<sub>6</sub> are added. The mixture is again heated for 2 hours at 80°C (temp. of the bath), filtered and steamed in a vacuum. The product obtained is I (R = benzylmercapto), yield 54.1%, m.p. 114 - 115°C (from acetone). To 0.026 moles of II in 100 ml of anhydrous ether over a period of 1 hour at -8 to -13°C, a solution of 0.057 moles of piperidine in 50 ml ether is added. It is agitated 30 min at -13°C, filtered and the residue rinsed with warm ether. The combined filtrates are refluxed in a vacuum until dry, and the obtained product 2-R-4,6-dichlor-1,3,5-triazine (VI) (R = piperidino), C<sub>8</sub>H<sub>10</sub>N<sub>4</sub>Cl<sub>2</sub> (IVa), yield 61%, m.p. 90 - 90.5°C, (from petr. ether). Similarly, IV is obtained (the data gives R, composition formula, b.p. in °C); morpholino, C<sub>7</sub>H<sub>8</sub>N<sub>4</sub>OCl<sub>2</sub>, 157.5 - 158.6°C (from benzyl-petr. ether); benzylamino, C<sub>10</sub>H<sub>8</sub>N<sub>4</sub>Cl<sub>2</sub>, 116.3 - 117.8°C (from petr. ether). Iv (R = methylamino) is synthesized by the method described in (Diels O., Ber., 1899, 32, 691). To a solution 0.0457

Card 2/3

L 12337-63

S/061/63/000/005/037/075

2-replaceable 4.6-diethylenimino- .....

moles of II in 25 ml of anhydrous  $C_6H_6$  at 3 - 5°C a solution of 0.01 moles of IVa in 25 ml anhydrous  $C_6H_6$  is added. The mixture is agitated for 4 hours at 30 - 35°C and left standing 12 hours, filtered, the filtrate is steamed in a vacuum and the product obtained is I (R = piperidino) (B), yield 34%, m.p. 130 - 131°C (from benzene petr. ether). 0.0071 moles of Ia are dissolved in 40 ml of anhydrous  $CHCl_3$  and drop by drop a solution of 0.057 moles of piperidine in 20 ml  $CHCl_3$  is added, it is agitated for 4 hours at 18 - 20°C, the residue is filtered, and the filtrate is steamed in a vacuum. Ib is obtained with yield of 70%. Similarly I is obtained (the data gives R, method, yield in %, m.p. in °C): morpholino, A, 43, B, 51, 132 - 133.2°C;  $NHCH_2CH_2NC_5H_{10}$  ( $NC_5H_{10}$  = piperidyl), B, 56, 83.8 - 85.3;  $O < (CH_2CH_2) > NCH_2CH_2NH$ , B, 34, 82.1 - 83.4. Ye. Tarasevich.

[Abstractor's note: Complete translation]

Card 3/3

5.3610

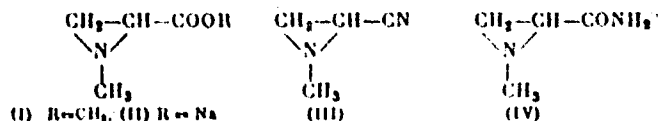
77371  
SOV/79-30-1-32/78

AUTHORS: Antonov, V. K., Berlin, A. Ya.

TITLE: Alkaline Saponification of Esters and Nitriles of Ethyleneiminocarboxylic Acids

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 151-153 (USSR)

ABSTRACT: The methyl ester of N-methylethyleniminecarboxylic acid (I) was saponified with alcoholic NaOH, and only one product, the sodium salt of N-methylethyleniminecarboxylic acid (II) was isolated, in 25% yield, mp 222-223° (dec). The free acid was not obtained by acidifying the above salt, but rather a water soluble polymeric product was obtained.



Card 1/2



Alkaline Saponification of Esters and  
Nitriles of Ethyleneiminocarboxylic  
Acids

77371  
SOV/79-30-1-32/78

The amide of N-methylethyleniminecarboxylic acid (IV) was obtained in 25% yield (mp 100-101°) by saponification of the nitrile of N-methylethyleniminecarboxylic acid (III) with aqueous-alcoholic alkali. The corresponding sodium salt (II) was obtained in 40-45% yield. At the same time amide (IV) was obtained, in 27.5% yield (mp 98-100°), by saponification of nitrile (III) with a solution of KOH containing 3% H<sub>2</sub>O<sub>2</sub>. There are 4 references, 1 Soviet, 1 German, 2 U.S. The U.S. references are: M. A. Stolberg, J. O'Neill, T. Wagner-Jauregg, J. Am. Chem. Soc., 75, 5045 (1953); G. Jones, J. Org. Chem., 9, 125 (1944).

SUBMITTED: December 17, 1958

Card 2/2

5.3610

77401

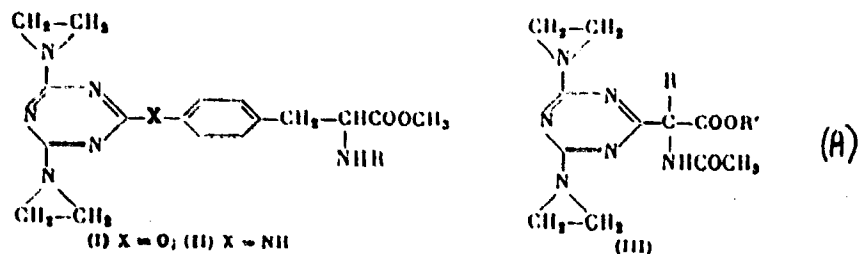
SOV/79-30-1-62/78

AUTHORS: Berlin, A. Ya., Antonov, V. K.

TITLE: Some Diethyleneiminotriazine Derivatives of  $\alpha$ -Amino Acids

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 282-286 (USSR)

ABSTRACT: Analogs of the toxic carcinostatic drug, triethyleneimino-S-triazine (TET), diethyleneiminotriazine compounds of type (I), (II), and (III), containing radicals of  $\alpha$ -amino acid, were prepared and tested as drugs.



Card 1/4

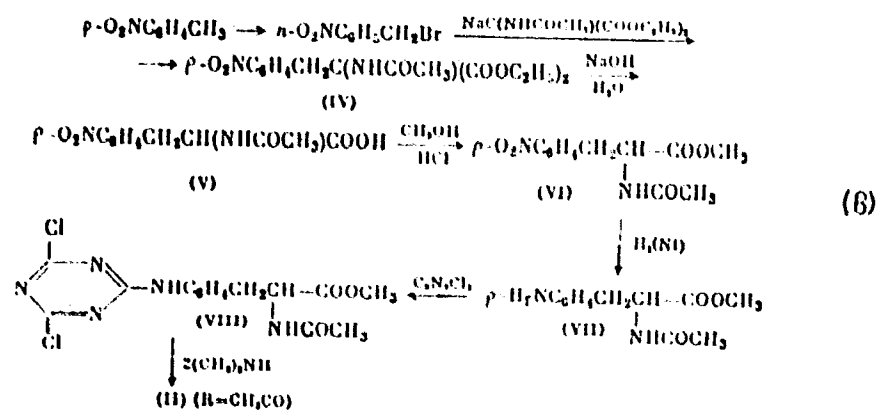
Some Diethyleneiminotriazine Derivatives  
of  $\alpha$ -Amino Acids77401  
SOV/79-30-1-62/78

(I) ( $R=CHO$ ) was obtained (40%) by condensation of sodium phenoxide of N-formyl-L-thyrosine methyl ester with 2-chloro-4,6-diethyleneimino-S-triazine, mp 131.5-132.2°. (I) ( $R=CH_3CO$ ) was obtained (26.5%) similarly from methyl ester of N-acetyl-L-thyrosine, mp 106.5-107.5°. The synthesis of (II) ( $R=CH_3CO$ ) was made according to the scheme shown in (B) mp 160-161°, yield 40.5%. (III) ( $R=COOC_2H_5$ ), ( $R'=C_2H_5$ ) was obtained (28%) by the condensation of 2-chloro-4,6-diethyleneimino-S-triazine with potassium acetylaminomalonate, mp 132-133°. Biological tests of the obtained compounds were conducted by Ye. M. Shamayeva and published separately. There are 6 references, 2 U.S., 1 U.K., 1 German, 2 Soviet. The 3 U.S. and U.K. references are: F. Bergel, G. Lewis, J. Chem. Soc., 1957, 1816; E. Jackson, J. Am. Chem. Soc., 74, 837 (1952); J. Burkhalter, V. Stephens, J. Am. Chem. Soc., 73, 56 (1951).

Card 2/4

Some Diethyleneiminotriazine Derivatives  
of  $\alpha$ -Amino Acids

1/401  
30V/79-30-1-62/78



Card 3/4 Assoc: Inst. Exptl. Pathology & Therapy of Cancer AMS USSR

SHEMYAKIN, Mikhail Mikhailovich; KHOKHLOV, Aleksandr Stepanovich; KOLOSOV, Mikhail Nikolayevich; BERGEL'SON, Lev Davydovich; ANTONOV, Vladimir Konstantinovich; SHVETSOV, Yu.B., red. izd-va; DOROKHINA, I.N., tekhn. red.

[Chemistry of antibiotics] Khimija antibiotikov. Izd.3., perer. i dop. Moskva, Izd-vo Akad. nauk SSSR. Vol.1. 1961. pp.1-774. Vol.2. 1961. pp. 780-1550. (MIRA 14:8)  
(ANTIBIOTICS)

ANTONOV, V.K.; CHUFAROV, G.I.

Reduction of manganous oxide with hard carbon. Trudy Inst. met.  
UFAN SSSR no. 101-105 '61. (MIRA 16:6)  
(Manganese oxides) (Carbon)

CARLOFF, V.I. ...

Now ...  
... ( ... )  
... ( ... )

3

ANTONOV, V. K., Institute for Chemistry of  
Natural Compounds, Academy of Sciences USSR,  
Moscow - "Tautomeric transformations of  
hydroxymethylglycylpeptides" (Section III)

LEBEDEVICH, Y. A., Institute for Chemistry of  
Natural Compounds, Academy of Sciences USSR,  
Moscow - "Synthesis and chemical behavior of  
model glycopeptides" (Section III)

SHCHUKINA, L. A., Institute for Chemistry of  
Natural Compounds, Academy of Sciences USSR,  
Moscow - "Synthesis of cyclic decapeptides"  
(Section III)

reports to be submitted for the Fifth European Peptide Symposium,  
Oxford, England, 3-7 Sep 1962.



SHEMYAKIN, M.M., akademik; ANTONOV, V.K.

Results of the 4th European Symposium on Peptide Chemistry; summary of reports. Zhur. VkhO 7 no.3:353-360 '62. (MIRA 15:6)  
(Peptides--Congresses)

ANTONOV, V.K.

Synthesis of tripeptides containing amino acid residues. Izv.  
AN SSSR. Otd.khim.nauk no.6:1129-1130 Je '63. (MIRA 16:7)

1. Institut khimii prirodnkh soyedineniy AN SSSR.  
(Peptides) (Laines)

ANTONOV, V.K.; SHCHELOKOV, V.I.; SHEMYAKIN, M.M.

Synthesis of cyclodepsipeptides by inclusion of residues of  
 $\beta$ -hydroxy acids into the diketopiperazine ring. Izv. AN SSSR.  
Otd.khim.nauk no.6:1145 Je '63. (MIRA 16:7)

1. Institut khimii prirodnikh soedineniy AN SSSR.  
(Piperazine) (Acids, Organic) (Peptides)

SHEMYAKIN, M.M.; OVCHINNIKOV, Yu.A.; ANTONOV, V.K.; KIRYUSHKIN, A.A.;  
IVANOV, V.T.; SHCHELOKOV, V.I.; SHKROU, A.M.

Synthesis of O,O'-diacetylserratamolide. Izv. AN SSSR.  
Ser. khim. no.12:2233 D '63. (MIRA 17:1)

1. Institut khimii prirodnnykh soyedineniy AN SSSR.

ANTONOV, V. K.; SHEMYAKIN, M. M.; SHKROB, A. M.

"New data on hydroxy- and amino-acyl incorporation into peptide systems."

report submitted for 7th European Peptide Symp, Budapest, 3-8 Sep 64.

ANTONOV, V.K.; KURTS, A.L.

$\alpha$ -Substituted  $\alpha$ -amino acids. Report No.9: Bromination of  
4-methyl-2-trifluoromethyl-5-oxazolone. Izv.AN SSSR. Ser.khim.  
no.1:99-103 Ja '64. (MIRA 17:4)

1. Institut khimii prirodnikh soyedineniy AN SSSR.

SHROB, A. M.; KRYLOVA, Yu. I.; ANTONOV, V. K.; SHEMYAKIN, M. M.

Enolization of N-acylamides. Izv AN SSSR Ser Khim no. 4:774  
Ap '64. (MIRA 17:5)

1. Institut khimii prirodnikh soyedineniy AN SSSR.

ANTONOV, V.K., kand. khim. nauk

European symposium on the chemistry of peptides. Vest. AN SSSR  
34 no.12:71 D '64 (MIRA 18:1)



ANTONOV, V.K.; SHKROB, A.M.; SHEMYAKIN, M.M.

Activation of the amide group by acylation. Part 3: Oxyacyl  
inclusion reaction in the N-oxyacyllactam series. Zhur. ob.  
khim. 35 no.8:1380-1389 Ag '65. (MIRA 18:8)

1. Institut khimii prirodnikh soedineniy AN SSSR.

ANTONOV, V.K.; SHECHELOKOV, V.I.; SHENYAKIN, M.M.; TOVAROVA, I.I.; KISELEVA, O.A.

Selective hydrolysis of O,G'-diacetylserratamolide and a comparison of the synthetic and biosynthetic types of the antibiotic.  
Antibiot'ki 10 no.5:387-390 My '65. (MIRA 18:6)

1. Institut khimii prirodnnykh soyedineniy AN SSSR, Moskva.
2. Laboratoriya khimii antibiotikov Instituta khimii prirodnnykh soyedineniy AN SSSR, Moskva (for Shenyakin).
3. Laboratoriya vydeleniya i oshchutki prirodnnykh soyedineniy Instituta khimii prirodnnykh soyedineniy AN SSSR, Moskva (for Kiseleva).

LEBEDEV, A.Ye.; ANTONOV, V.K.; TATCIYENKO, P.A.; AFDIZOV, V.A.; NEVOYSA, G.G.;  
Principal assistant: ZAPARENKO, V.I.; KARPOVEIS, B.S.

Experience in the sintering of raw (unconcentrated) "tobacco"  
ore. Sbor.trud. UNIM no. 11579-76 '69.

(MIRA 28:11)

ANTONOV, V.K.; SICHELKOV, V.I.; SEMYAKIN, M.M.

Activation of an amide group by acylation. Part 6: Synthesis of cyclodepsipeptides by hydrazinacyl inclusion into cyclopeptides. Zhur.ob.khim. 35 no.12:2239-2246 D '65.

(MIRA 19:1)

1. Institut khimii prirodnikh soedineniy AN SSSR. Submitted December 23, 1964.

TATIYEVSEAYA, Ye. P., CHUFAROV, G. I., and ANTONOV, V. K.

"Kinetics of the Reduction and of Dissociation of the Oxides of Manganese," Dok. AN, 58 No. 9, 1947

*Inst. Chem. Metallurgy, Ural affil., AS*

ANTONOV, V. K.

"Kinetics of the Restoration and Dissociation of Manganic Oxides," Iz. Ak.  
Nauk SSSR, Otdel. Tekh. Nauk, No.3, 1948

Ural Affil., AS.

CA

BUTCHER, J. S.

Velocity of reduction of manganese oxides by hydrogen and by carbon monoxide. K. P. Tatlevskaya, V. N. Antopy, and O. A. Chufarov. Doklady Akad. Nauk S.S.S.R. 68, 861-4(1949); cf. C.A. 43, 6621h. -- Rates of the decrease of pressure of  $H_2$  or CO (after freezing out the  $H_2O$  or  $CO_2$  formed) on heating 1-g. samples of the Mn oxide under  $p = 80, 100,$  and  $200$  mm. Hg of the reducing gas, were detd. at  $80^\circ$  intervals in the range  $350-870^\circ$  for  $MnO$ ,  $Mn_2O_3$ , and  $Mn_3O_4$  at different const.  $\eta$  contents in the solid phase, and are plotted in g.  $O_2$ /min. against  $p$ . Under the given conditions, the Mn oxides are reduced only to  $MnO$  which is taken as 100% reduction. At the same temp. and  $p$ ,  $Mn_2O_3$  is reduced, at all stages, much faster by CO than by  $H_2$ . For  $Mn_3O_4$ , reduction by CO is faster only at low degrees of reduction, whereas from 40% reduction upward,  $H_2$  reduces faster than CO. This is the result of the two-stage reduction of  $Mn_3O_4$ , first to  $Mn_2O_3$ , then to  $MnO$ . For  $Mn_2O_3$ , reduction by CO is actually slower than by  $H_2$ , at all stages. The apparent activation energies for the reduction by CO and by  $H_2$ , are, for  $MnO$ , 16.2 and 24.0, for  $Mn_2O_3$ , 28.0 and 23.0, for  $Mn_3O_4$ , 24.8 and 22.0 kcal./mole. N. Thon

ANTONOV, V. K.

B. T. R.  
Vol. 3 No. 5  
May 1954  
Metals--Extraction and Refining

6747. Rate of Reduction of Iron Oxides. E. P. Tat'yanskaya,  
G. I. Chufarov, and V. K. Antonov. *Henry Brucher, Alrodend*  
Cat., Translation no. 8074, 8 p. (Condensed from *Zhurnal*  
*Fizicheskoi Khimii*, v. 24, no. 4, 1950, p. 385-393.)  
Investigates variation in equilibrium pressure of oxygen dur-  
ing dissociation of  $\text{Fe}_2\text{O}_3$ ,  $\text{Fe}_3\text{O}_4$ , and  $\text{FeO}$ . Tables, graphs.  
4 ref.



ANTONOV, V. K.

USSR/Chemistry, Metallurgy - Copper Jan 52

"Retarding Effect of Gaseous Reaction Products on the Rate of Reduction of Copper Oxides With Hydrogen and Carbon Monoxide," G. I. Zhuravov, d. D. Averbukh, Ye. P. Tat'yevskaya, V. K. Antonov, Ural Affiliate, Acad Sci USSR, Inst of Chem and Metallurgy, Sverdlovsk

"Zhur Fiz Khim" Vol LXVI, No 1, pp 31-36

Gaseous products of the reaction, on being adsorbed at the reaction surface, bring about a sharp lowering of the rate of reduction. A quantitative expression for the retarding effect of  $\text{CO}_2$  is given. The retarding effect of water vapor is greater for cuprous oxide than cupric oxide is greater. The relation between the values of adsorption of  $\text{H}_2$  and  $\text{CO}$  is in good agreement with kinetic data for  $\text{CuO}$ . When  $\text{Cu}_2\text{O}$  is reduced with  $\text{CO}$ , there is recrystallization of newly formed metallic copper, so that the rate of the reaction is greatly lowered.

PA 211740







ANTONOV, V. K.

USSR/Chemistry

Card 1/2

Authors : Chufarov, G. I., Averbukh, B. D., Tatievskaya, E. P., and Antonov, V. K.

Title : Inhibiting effect of gaseous reaction products on the rate of reduction of ferric oxides with hydrogen and carbon monoxide.

Periodical : Zhur. Fiz. Khim, 28, Ed. 3, 490-497, March 1954

Abstract : The authors investigated the effect of gaseous reaction products on the rate of reduction of ferric oxides with carbon monoxide and hydrogen in a pressure range of from 100-250 mm mercury column and also measured the adsorption of basic gases and gases obtained during reduction on the surfaces of the oxides. The inhibiting effect of the gaseous reaction product  $\text{CO}_2$  during the reduction of  $\text{Fe}_3\text{O}_4$  and  $\text{FeO}$  with carbon monoxide can be computed quantitatively by calculating the rate of reaction according to a certain equation. During reduction of  $\text{Fe}_3\text{O}_4$  with carbon monoxide and hydrogen at temperatures above  $700^\circ$  there is practically no inhibiting effect of the reaction products during the initial stages, but after

Zhur. Fiz. Khim, 28, Ed. 3, 490-497, March 1954

(additional card)

Card 2/2

**Abstract** : Reduction reached 11%, when a greater amount of  $\text{Fe}_3\text{O}_4$  is formed, the inhibiting effect of carbon monoxide and water vapor becomes great. The experimental material on the inhibiting effect of gaseous reaction products on the rate of reduction of the investigated ferric oxides is in agreement with the data regarding the adsorption of gaseous reducing agents and reaction products on the surface of the mentioned oxides. Seven U.S.S.R. references 1 since 1937. Graphs.

**Institution** : Acad. of Sc. U.S.S.R. Ural Branch, Institute of Chemistry and Metallurgy, Sverdlovsk

**Submitted** : June 15, 1953

CHUFAROV, G.I.; TATIYEVSKAYA, Ye.P.; ZHURAVIEVA, K.G.; AVERBUKH, B.D.;  
LISNYAK, S.S.; ANTONOV, V.K.; BOGOSLOVSKIY, V.N.; STAFYEVA, N.M.

Kinetics and mechanism of the reduction of metal oxides and chemical  
compounds. Trudy Inst. met. UFAN SSSR no.2:9-40 '58.

(Oxidation-reduction reaction) (Metallurgy)

(MIRA 12:4)

17.3100

SOV/81-59-12-41658

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 12, p 62 (USSR)

AUTHOR: Antonov, V.K.

TITLE: On the Kinetics of Ilmenite Reduction

PERIODICAL: Tr. in-ta khimii. Ural'skiy fil. AS USSR, 1958, Nr 2, pp 81-95

ABSTRACT: The rate of reduction of ilmenite and titanium dioxide by graphite in vacuum and in an atmosphere of CO and also by carbon monoxide and  $H_2$  at 950 - 1,150°C has been investigated. The reduction of ilmenite and titanium dioxide by graphite in vacuum proceeds extremely slowly. The reduction in the presence of gaseous reaction products takes place at a higher rate. The rate of reduction by graphite in a CO atmosphere is ~twice higher than reduction by pure CO due to the interaction of  $CO_2$  with graphite. Among the gaseous reducing agents  $H_2$  is the most active. The reduction of ilmenite by carbon monoxide proceeds autocatalytically. The dependence of the rate ( $v$ ) of ilmenite reduction on the CO pressure ( $P$ ) in the range of  $10^{-3}$  - 300 mm Hg obeys the equation  $v = K \cdot P^n$ , where  $K$ ,  $n$  are constants. In the reduction by hydrogen a linear dependence of the rate on the  $H_2$  pressure in the gaseous phase is observed.

From the authors' summary

Card 1/1



ANTONOV, V. K.: Master Chem Sci (diss) -- "Reducing ilmenite with hydrogen, carbon monoxide, and graphite". Sverdlovsk, 1959. 12 pp (Ural Affiliate of the Acad Sci USSR, Inst of Metallurgy), 150 copies (KL, No 17, 1959, 106)

S/137/61/000/010/004/056  
A006/A101

**AUTHORS:** Sidorov, N. Ye., Lysenko, I. S., Antonov, V. K., Zaporozhets, N. P.

**TITLE:** On the use of heated and oxygen-enriched air during the sintering of iron ores

**PERIODICAL:** Referativnyy zhurnal, Metallurgiya, no. 10, 1961, 12, abstract 10V85. ("Sb. tr. Ukr. n.-i. in-t metallov", 1960, no. 6, 34 - 44)

**TEXT:** Laboratory sintering was performed with a 225 mm high charge layer, 2.5 - 4.5% C and 1.0 basicity. When sintering Krivoy Bog ores, an increase of the air temperature up to 100 and 300°C, entailed a reduction of specific fuel consumption by 12.5 and 25.0% and raised the output from 73.4 to 85.5% (+ 10 mm fraction). When sintering Kerch ores air heating up to 200 - 250°C raised the degree of As volatility from 20 and 13% to 30.7 and 26.9%. The use of air, heated to 160 - 175°C by gas combustion over a charge layer during 25% of the whole sintering time, raised the efficiency by 3.5%, the output from 76.3 to 80.4%, although O<sub>2</sub> was reduced from 20 to 18.3% in the infiltrated air. Air heating over vacuum-chambers 3 - B should proceed as follows: a) by gas combustion (Q 1,400 kcal/m<sup>3</sup>) at its consumption of 13 m<sup>3</sup>/t of sinter and about 200°C air temperature, making it

Card 1/2

SIDOROV, N.Ye., kand.tekhn.nauk; ANTONOV, V.K., inzh.; MISHCHENKO, N.M.;  
PILIPAYTIS, F.F.

Use of heated and oxygen-improved air in iron-ore sintering. Stal'  
20 no.10:878-883 O '60. (MIRA 13:9)

1. Ukrainskiy nauchno-isledovatel'skiy institut metallov i Yena-  
kiyevskiy metallurgicheskiy zavod.  
(Sintering) (Oxygen—Industrial applications)

STARSHINOV, B.N., kand.tekhn.nauk; ANTONOV, V.K., inzh.

All-Union Conference of Blast and Sintering Furnace Operators.  
Metallurg 6 no.2:13-14 F '61. (MIRA 14:1)  
(Metallurgy--Congresses)

AVFRBUKH, B.D.; HRAYNINA, D.Z.; ANTONOV, V.K.; CHUFAROV, G.I.

Study of equilibrium conditions in the reduction of manganese  
ferrite by hydrogen. Zhur. fiz. khim. 36 no.11:2436-2441 N'62.  
(MIRA 17:5)

1. Institut metallurgii, Ural'skiy filial AN SSSR.

S/076/62/036/011/008/021  
B101/B180

AUTHORS: Averbukh, B. D., Braynina, D. Z., Antonov, V. K., and  
Chufarov, G. I. (Sverdlovsk)

TITLE: Study of equilibrium conditions in the reduction of manganese  
ferrite by hydrogen

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 11, 1962, 2436 - 2441

TEXT: To find out the structure of ferrites and suitable conditions for  
their production, the reduction of manganese ferrite in hydrogen was  
studied at 900°C. Manganese ferrites of different compositions were  
produced by sintering  $\text{Fe}_2\text{O}_3$  -  $\text{MnO}$  mixtures at 1200°C in various atmospheres  
( $\text{CO}_2$ , Ar,  $\text{CO}_2 + \text{O}_2$ , or air), and by sintering  $\text{Fe}_2\text{O}_3$  -  $\text{MnO}$  -  $\text{Mn}_3\text{O}_4$  mixtures.  
Debye patterns showed that the resulting ferrites were single-phase. The  
reduction was performed in a mixture of water vapor ( $p_{\text{H}_2\text{O}} = 4.579 \text{ mm Hg}$ ) and  
hydrogen ( $p_{\text{H}_2} = 10^{-3} - 10^2 \text{ mm Hg}$ ). After equilibrium had been established

Card 1/4

Study of equilibrium conditions in...

S/076/62/036/011/008/021  
B101/B180

between ferrite and gas mixture, the water was frozen out, the  $p_{H_2}$  measured, the degree of reduction determined from the  $H_2$  consumption, and  $p_{O_2}$  the equilibrium pressure calculated. The phases formed in the reduced ferrite were identified by Debye patterns. Results: Except for those in air, which were higher due to oxidation, the ferrites sintered in different atmospheres showed approximately the same  $p_{H_2O}/p_{H_2}$  values with the same degree of reduction. Ferrites containing excess manganese owing to admixture of  $Mn_3O_4$ , showed higher  $p_{O_2}$  due to formation of  $Mn_3O_4 - MnFe_2O_4$  solid solutions. During the ferrite reduction, the lattice constant of the spinel phase gradually fell until it was roughly the same as for magnetite. At 10% reduction, a lower oxide phase appeared with an NaCl lattice, the constant of which increased as the reduction proceeded. At 45% reduction, a metallic phase appeared, with the lattice constant of iron (2.861 Å). The reduction of manganese ferrite thus proceeds in two stages: (1) Reduction to the lower oxide phase (Fe, Mn)O via formation of non-ideal solid

Card 2/4

Study of equilibrium conditions in...

S/076/62/036/011/008/021  
B101/B180

solutions of  $\text{MnFe}_2\text{O}_4$  and  $\text{Fe}_3\text{O}_4$ ; (2) reduction of the lower oxide phase to iron. a the activities and r the activity coefficients were calculated for the solid solutions (Table 3). There are 6 figures and 3 tables. The most important English-language reference is: P. K. Foster a. A. J. E. Welch, Trans. Faraday Soc., 52, 1636, 1956.

ASSOCIATION: Institut metallurgii, Ural'skiy filial Akademii nauk SSSR  
(Institute of Metallurgy, Ural Branch of the Academy of  
Sciences USSR)

SUBMITTED: July 3, 1961

Card 3/4



ZARETSKIY, V.I.; VUL'FSOY, N.S.; ZAIKIN, V.G.; KISIN, A.V.; SHKROB, A.M.;  
ANTONOV, V.K.; SHUMYAKIN, M.M.

Mass spectrometric study of cyclols containing aromatic rings.  
Izv. AN SSSR Ser. khim. no.11:2076-2079 N '64 (MIRA 18:1)

1. Institut khimii prirodnikh soyedineniy AN SSSR.

L 22897-65 REF-2/WT(1)/WT(n)/WP(b)/WP(t) IJP(e) JD  
ACCESSION NR: AP5001240 8/0126/64/018/005/0711/0716

AUTHOR: Bogoslovskiy, V. N. ; Shchepetkin, A. A. ; Startseva, I. Ye. ; Antonov, V. K. ;  
Chufarov, G. I. ; Shur, Ya. S.

TITLE: Effect of the phase composition on the magnetic properties of magnesium-  
manganese iron ferrite with a rectangular hysteresis loop

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 5, 1964, 711-716

TOPIC TAGS: ferrite magnetic property, magnesium ferrite, manganese ferrite, spinel  
solid solution, hysteresis loop

ABSTRACT: The object of this work was to find out whether the rectangularity of the  
hysteresis loop of Mg-Mn ferrites is related only to the presence of vacancies, or  
whether trivalent manganese ions also play a major part in this phenomenon. An  
Mg-Mn-Fe ferrite obtained from a mixture of 34 mol. % MgO, 8.5% MnO (in the form  
of MnCO<sub>3</sub>) and 57.5% Fe<sub>2</sub>O<sub>3</sub> and having a relatively high rectangularity coefficient of the  
hysteresis loop was investigated. X-ray diffraction was used to determine the concen-  
tration of the components of the spinel solid solutions, the magnetic characteristics were  
measured by the ballistic method, and changes in the composition of the solid solutions

Card 1/2

L 22897-65

ACCESSION NR: AP5001240

were induced by annealing the samples under various conditions. It was found that the increase or decrease in the rectangularity coefficient of the hysteresis loop is due primarily to the formation and disappearance of  $Mn^{3+}$  ions, although there is a simultaneous change in the concentration of vacancies in the spinel solid solution. Samples containing an appreciable quantity of vacancies and no  $Mn^{3+}$  ions have a rectangularity coefficient of less than 1.5. The authors conclude that the rectangular shape of the hysteresis loop of Mg-Mn-Fe ferrites obtained from a mixture containing over 10 mol. %  $Fe_2O_3$  is due to the presence of  $Mn^{3+}$  ions which cause local distortions of the crystal structure of the spinel solid solution. Orig. art. has 1 table, 1 figure, and 7 formulas.

**ASSOCIATION:** Institut metallurgii, Sverdlovsk (Metallurgical Institute); Institut fiziki metallov AN SSSR (Institute of the Physics of Metals, AN SSSR)

SUBMITTED: 02Nov63

ENCL: 00

SUB CODE: MM, EM

NO REF SOV: 007

OTHER: 010

Card 3/2

CHERNOB, A.M.; KRYLOVA, Yu.I.; ANTONOV, V.K.; GUMYAKOV, M.M.

Activation of the amide group by N-acylation. Part 4: Formation and conversions of aromatic cyclols. Zhur. ob. khim. 35 no.8: 1389-1398 Ag '65. (MIRA 18:8)

1. Institut khimii prirodnykh soyedineniy AN SSSR.

ANTONOV, V.K.; AGADZHANYAN, TS.Ye.; TELICHINA, E.D.; JUNTAKIN, M.M.

Activation of an amide group by activation. Part 5: Inclusion of amino acid radicals into linear and cyclic peptides. Zhur. ob.khim. 35 no.12:2231-2238 D '65. (MIRA 19:1)

1. Institut khimii prirodnykh soedineniy AN SSSR. Submitted December 23, 1964.

SOV 157-59-1-292

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 37 (USSR)

AUTHORS: Manchinskiy, V. G., Antonov, V. M.

TITLE: Reduction of Iron Ore by Means of Hydrogen and Carbon Monoxide at Elevated Pressures (Vosstanovleniye zheleznoy rudy vodorodom i okisvu ugleroda pri vysokikh davleniyakh)

PERIODICAL: V sb. Dvennoye proizvo. Moscow, Metallurgizdat, 1957, pp 3-19

ABSTRACT: The process of the reduction of Krivoy Rog ore (containing 67.8% Fe and 1.16%  $\text{SiO}_2$ ) by the action of  $\text{H}_2$  and CO was studied at temperatures ranging from 350 to 700°C and at pressures varying from 0 to 25 atm gage; the ore investigated was in a powdered form, in grains ranging from 0.75 to 1.0 mm in size, and in the form of cubes 12-13 mm per side. It was established that the greatest acceleration of the reduction process (RP) occurs during hydrogen reduction, with the ore in the form of grains ranging from 0.75 to 1.0 mm in size and with the pressure increased to 5 atm gage. At 350-400° and at pressures in excess of 5 atm gage hydrogen reduction of the ore, as well as the reduction of samples of it in the form of cubes 12-13 mm

Card 1/2

SOV/37-59-1-292

Reduction of Iron Ore by Means of Hydrogen and Carbon Monoxide (cont.)

per side, is less effective since the rate of the RP is slowed down. It was discovered that in the course of the RP of grains of the Fe ore an increase in pressure will accelerate the decomposition of the CO until the high CO<sub>2</sub> concentration in the reaction zone will halt the decomposition process entirely. Increasing the pressure above 15 atm gage does not affect the quantity of the decomposed CO. The greatest rate of CO decomposition is observed at a temperature of 500°. It was established that the effect of the gas pressure on the rate of reduction of the ore by the CO is governed by the reciprocal influence of the process of CO decomposition and the RP of the Fe in the ore; the rates of these processes being affected to a different degree by an increase in gas pressure.

L. Kh.

Card 2/2

ANTONOV, V.M.

Effect of external friction on the deep drawing process.  
Kus.-shtam. proizv. 5 no.10:13-15 0 '63. (MIRA 16:11)



LEVIN, L.Ya.; VANCHIKOV, V.A.; SHUR, A.B.; KAYLOV, V.D.; BYALYY, L.A.;  
Prinimali uchastiye: RUSAKOV, P.G.; ANTONOV, V.M.; KOSTROV, V.A.;  
KOTOV, A.P.; YEGOROV, N.D.; BUGAYEV, K.M.; SOLODKOV, V.I.;  
YASHCHENKO, B.F.; KOREGIN, A.V.; SAPOZHNIKOV, N.P.; TSUKANOV, V.N.;  
VITOVSKIY, V.M.

Mastering the operation of high-capacity blast furnaces. Stal'  
23 no.9:773-778 S '63. (MIRA 16:10)

DVORNIKOV, A.G.; TKACH, B.I.; SHTANCHENKO, M.S.; ANTONOV, V.M.

Some features of the distribution of cinnabar and native elements  
in loose sediments of the Nagol'nyy Ridge. Dokl. AN SSSR 151  
no.5:1189-1192 Ag '63. (MIRA 16:9)

1. Institut mineral'nykh resursov AN UkrSSR. Predstavleno  
akademikom N.M.Strakhovym.  
(Nagol'nyy Ridge—Minerals)

ACCESSION NR: AP4024068

S/0048/64/028/002/0400/0403

AUTHOR: Kononov, B.A.; Antonov, V.M.; Yevstigneyev, V.V.

TITLE: Investigation of the energy spectrum of the electron beam from a 7.5 MeV betatron (constructed at the Tomsk Polytechnic Institute) Report, Thirteenth Annual Conference on Nuclear Spectroscopy held in Kiev 25 Jan to 2 Feb 1963

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.2, 1964, 400-403

TOPIC TAGS: betatron electron spectrum, betatron output, Tomsk Polytechnic Institute betatron

ABSTRACT: The spectrum of the electrons emitted by the 7.5 MeV betatron constructed at the Tomsk Polytechnic Institute was investigated. A brief description of the betatron which has an E-shaped magnet is given. The experimental arrangement is diagrammed in Fig.1 of the Enclosure. The electron distribution was analyzed by means of a sector type  $\beta$ -spectrometer, developed at the Institute; the electrons were detected by means of two AS-2 type gas discharge counters, connected into a coincidence circuit. The electron spectra obtained at different output energies are shown in Figs.2 and 3 of the Enclosure. Other figures in the text give the variation of

Cord 1/4

ACCESSION NR: AP4024068

the half-width of the spectrum as a function of the electron energy, the voltage on the deflector, and the thickness of an aluminum absorber in the beam. The test results are described briefly. The tests show that under the optimum operating conditions the half-width of the electron energy spectrum does not exceed 1%. With deviation from the optimum conditions the half-width of the energy distribution in the extracted beam may increase to 5%. It is noted that these characteristics are adequate for medical purposes and radiation chemistry, but that for physical experiment requiring a high degree of accuracy a betatron of this type must be equipped with an appropriate stabilizing system. Orig.art.has: 6 figures.

ASSOCIATION: Tomskiy politekhnicheskiy institut (Tomsk Polytechnic Institute)

SUBMITTED: 00

DATE ACQ: 08Apr64

ENCL: 02

SUB CODE: NS, SD

NR REF SOV:000

OTHER: 000

Card 2/4

ACCESSION NR: AP4024068

ENCLOSURE: 01

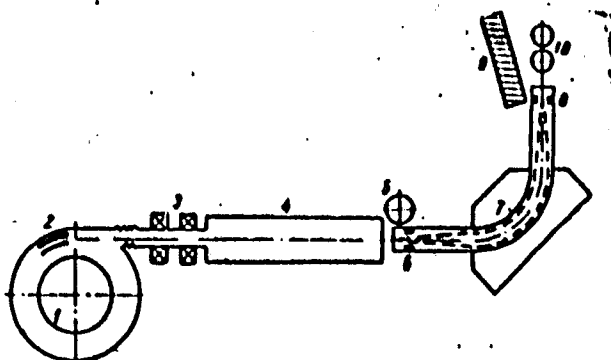


Fig.1. Diagram of the experiment: 1 - vacuum chamber of the betatron, 2 - deflector, 3 - quadrupole lenses, 4 - electron duct, 5 - ionization chamber, 6 - entrance aperture of the spectrometer, 7 - spectrometer vacuum chamber, 8 - exit aperture of the spectrometer, 9 - lead shielding, 10 - gas counters.

Card 3/4

ACCESSION NR: AP4024068

ENCLOSURE: 02

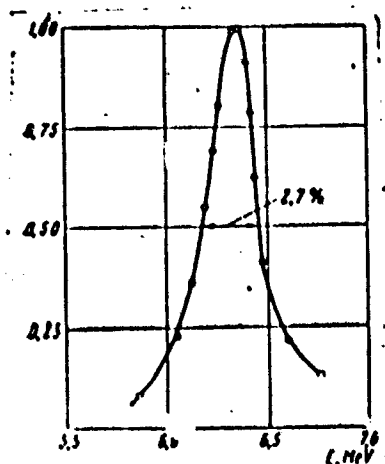


Fig.2. Energy spectrum of the electron beam from the betatron at an energy of 0.4 MeV.

Card 1/4

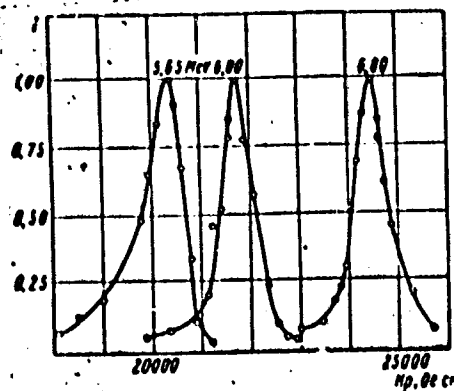


Fig.3. Spectra at different electron energies.

L 38153-66 EWT(d)/ENT(m)/EWP(w)/EWP(v)/T/EWP(j)/EWP(k)/EWP(h)/EWP(1) IIP(c) EM/WR/NA

ACC NR: AP6025676

SOURCE CODE: UR/0413/66/000/013/0145/0146

INVENTOR: Akat'yev, V. I.; Gorshkov, M. A.; Antonov, V. M.

ORG: none

TITLE: Stand for rolling glued films for covering helicopter rotor blades. Class 62, No. 183602

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 145-146

TOPIC TAGS: rolling mill, helicopter rotor, rotor blade

ABSTRACT: An Author Certificate has been issued for a stand for rolling glued films for covering helicopter rotor blades, consisting of a stand with magazines for the

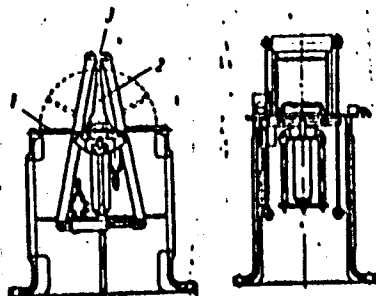


Fig. 1. Stand for rolling glued films for covering helicopter blades

1 - Magazines; 2 - mandrel; 3 - support.

Card 1/2

UDC: 629.13.01/06 620.178

ANTONOV, V. M.; KONNOV, B. A.; YEVSTIGNEYEV, V. V.

"Magnetic Beta Spectrometer with Double Focussing for Carrying out Physics Investigations with the Electron Beam of a Betatron."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

Tomskiy politekhnicheskiy institut (Tomsk Polytechnical Inst)



L 08352-67 EWT(m)

ACC NR: AR6028123

SOURCE CODE: UR/0058/66/000/005/A051/A051

AUTHOR: Antonov, V. M.; Kononov, B. A.; Yevatigneyev, V. V. 43

TITLE: Double focusing magnetic Beta spectrometer for the analysis of the energy distribution of electrons with energies up to 35 MeV

SOURCE: Ref. zh. Fizika, Abs. 5A425

REF. SOURCE: Izv. Tomskogo politekhn. in-ta, v. 138, 1965, 220-227

TOPIC TAGS: beta spectroscopy, spectrometer, electron energy, electron loss, bremsstrahlung, betatron

ABSTRACT: A double-focusing magnetic  $\beta$  spectrometer of the sector type is described, having flat and parallel pole pieces and developed for use principally in experiments aimed at the study of the energy lost by electrons in matter. Compared with the sector spectrometer developed earlier, the present spectrometer has double focusing, a larger energy range, and better operating characteristics. In addition to working with the electron beam of a betatron, it is planned to use the spectrometer in experiments where it is necessary to investigate the energy spectrum of bremsstrahlung. In addition, it can be successfully used for an analysis of  $\beta$  and  $\gamma$  spectra of radioactive isotopes. The construction of the spectrometer permits exact tuning possible and makes possible a variety of physical investigation. L. S. [Translation of Abstract]

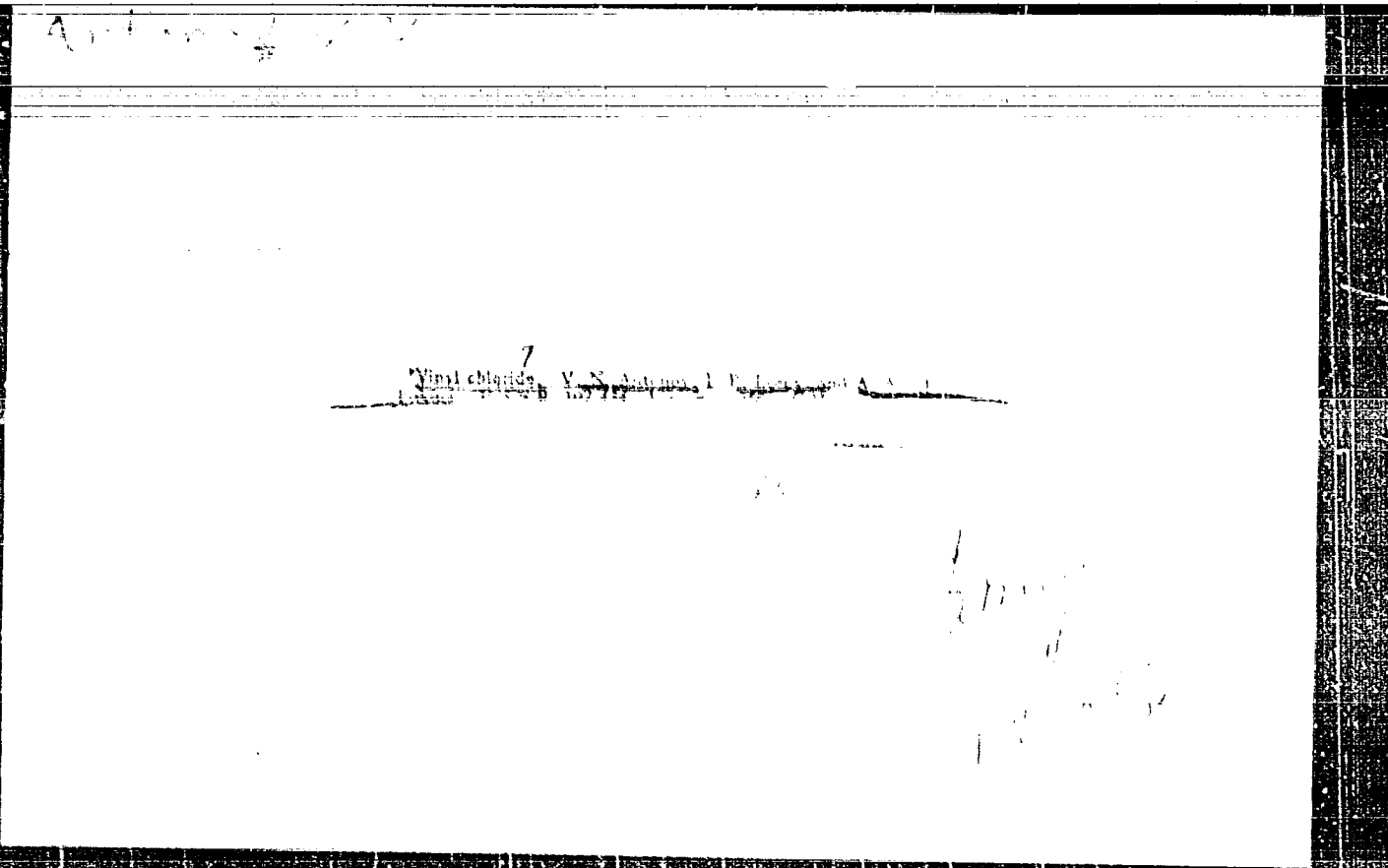
SUB CODE: 20

Card 1/1 nat

DVORNIKOV, A.G. [Dvornikov, O.H.]; TKACH, B.I.; SHTANCHENKO, M.S.;  
ANTONOV, V.M.

Minerals of a group of native elements in the loose sediments  
of the Nagol'nyy Range. Dop. AN URSR no.9:1226-1229 '64.  
(MIRA 17:11)

1. Institut mineral'nykh resursov AN UkrSSR. Predstavleno  
akademikom AN UkrSSR N.P. Semenenko [Semenenko, M.F.].



Page 1 of 1

UNITED STATES DEPARTMENT OF AGRICULTURE

Plant and Soil Sciences Division

Washington, D.C. 20250

ANTONOV, V.N.

Results of the Fifteenth All-Union Competition for the Best Suggestion Towards Economical Utilization of Electric and Thermal Power in 1959. Prom. energ. 15 no.10:53-54 O '60. (MIRA 13:11)  
(Electric power) (Fuel)

ACC NR: AP7001517

(N)

SOURCE CODE: UR/0229/66/000/011/0027/0031

AUTHOR: Antonov, V. N.; Izak, M. D.

ORG: None

TITLE: An automatic remote control system for a marine generator drive

SOURCE: Sudostroyeniye, no. 11, 1966, 27-31

TOPIC TAGS: remote control system, electric generator, automatic control equipment, marine engineering

ABSTRACT: The authors describe a remote system for automatically controlling and monitoring the operation of a 6D50A marine diesel generator with a power of 700 kw at 750 rpm. The installation provides for programmed start-up of a stand-by generator when the main generator fails or when the electric system is overloaded. A general schematic block diagram of the system is given and each of its modes of operation is discussed separately. Orig. art. has: 5 figures.

SUB CODE: 13, 09/ SUBM DATE: None

Card 1/1

UDC: 629.12-83-52

ANTONOV, V.N.

Production of initial monomers for carbochain fibers. Khim.  
volok. no.3:3-7 '61. (MIRA 14:6)

1. Goskomitet Soveta Ministrov SSSR po khimii.  
(Polymerization) (Textile fibers, Synthetic)

ANTONOV, V.N.

Conference of the chlorine industry workers. Khim.prom. no.3:589  
Ag '61. (MIRA 14:8)

(Chlorine industry--Congresses)



ZHAKSYBAYEV, N.; FOMENKO, V.D.; ANTONOV, V.P.; SAMARTSEV, I.A.; VASIL'YEV, B.F.; YAGODNITSYN, M.A.; VENGER, M.S.

Inadequate methods of waste water analysis are retarding the improvement of the sanitary condition of reservoirs. TSvet. met. 35 no.3:86-87 Mr '62. (MIRA 15:4)

1. Direktor Zyryanovskogo svintsovogo kombinata (for Zhaksybayev).
2. Sekretar' partiynogo komiteta Zyryanovskogo svintsovogo kombinata (for Fomenko).
3. Nachal'nik obogatitel'noy fabрики Zyryanovskogo svintsovogo kombinata (for Antonov).
4. Nachal'nik tsentral'noy khimicheskoy laboratorii Zyryanovskogo svintsovogo kombinata (for Samartsev).
5. Nachal'nik byuro stochnykh vod Zyryanovskogo svintsovogo kombinata (for Vasil'yev).
6. Rukovoditel' metodicheskoy gruppy khimicheskoy laboratorii Zyryanovskogo svintsovogo kombinata (for Yagodnitsyn).
7. Gosudarstvennyy sanitarnyy inspektor po promyshlennoy gigiyene Vostochno-Kazakhstanskoy sanitarnoy epidemiologicheskoy stantsii (for Venger).

(Water--Analysis) (Reservoirs)

ANTONOV, V.P.

New technology of making molds. Lit.proisv. no.9:26-28 S-0 '53.

(MLR 6:9)

(Founding)

ANTONOV, V.P., inzhener.

Use of centrifugal force in gating systems. Lit.proizv. no.11:7-  
9 N '56. (MLRA 10:1)

(Foundry machinery and supplies)

ANTONOV, V.P.

Method for extending the life of belt conveyor rolls in coke-screening stations. Koks i khim. no. 5:57 '61. (MIRA 14:4)

1. Bagleyskiy koksokhimicheskiy zavod.  
(Dneprodzerzhinsk--Coal industry--Equipment and supplies)

ANTONOV, V.P.; KAZIMIROV, A.T.

Four-way vertical core-dryer. Lit. proizv. no.2:13-14 F '63.  
(MIRA 16:3)  
(Coremaking)

ANTONOV, V.P.; KUDELIN, A.I.

Local sands and clays in clay-cement and lime-cement mortars.  
Trudy FTI Turk.fil.AN SSSR no.1:3-14 '49. (MIRA 16:1)  
(Mortar)

ANTONOV, V. P.[deceased]; AYZENBERG, Yu. B.

Calcined gypsum with increased strength. Trudy FTI Turk. fil.  
AN SSSR no.2:17-27 '50. (MIRA 16:1)

(Krasnovodsk—Gypsum)

L 10267-66 EWT(d)/EWT(1)/EPF(n)-2/T/ENP(1)/ETC(m) IJP(c) HW/GG/GW  
ACC NR: AP5021475 SOURCE CODE: UR/0046/05/011/003/0294/0299

AUTHOR: <sup>44, 55</sup>Antonov, V. P.; <sup>44, 55</sup>Ol'shevskiy, V. V.

ORG: <sup>44, 55</sup>Acoustics Institute AN SSSR, Moscow (Akusticheskiy institut AN SSSR)

TITLE: Space-time correlation of sea reverberations

SOURCE: Akusticheskiy zhurnal, v. 11, no. 3, 1965, 294-299

TOPIC TAGS: acoustic reverberation, correlation statistics, sound propagation, acoustic scattering, underwater acoustics<sup>44, 55</sup>

ABSTRACT: The space-time correlation of sea reverberation is analyzed by using the following mathematical model of reverberation as a random process,

$$F(t) = \sum_{i=1}^{\infty} a_i \Psi(t_i) S[\epsilon_i(t - t_i)], \quad (1)$$

where  $a_i$  is a random quantity that depends on the cross section of the  $i$ -th scatterer and the directivity of the acoustic antennas,  $\Psi(t)$  is a function describing the decrease in the levels of the elementary scattered signals due to the divergence of the sound-wave front and to absorption,  $S(t)$  the radiated signal, and  $\epsilon_i$  is a random quantity which takes into account the motion of the scatterers,

$$\epsilon_i = 1 + \frac{2v_i}{c} \quad (2)$$

Cord 1/2

UDC: 534.2 : 519.25



L 10267-66

ACC NR: AP5021475

with  $v_i$  the velocity component of the  $i$ -th scatterer in the direction towards the origin and  $t_i$  the time of arrival of the corresponding echo signal at the point of reception. By using this model, general relations are obtained for the space-time correlation function of the reverberation, with account taken of its nonstationary nature, the motion of the scatterers, and the directivity of the acoustic antennas. Scattering by inhomogeneities located in an infinite space (volume reverberation) and in a thin layer (surface and bottom reverberation) are treated as particular examples. Orig. art. has: 1 figure and 19 formulas.

SUB CODE: 20/  
08

SUBM DATE: 28 Jun 64/

ORIG REF: 005/

OTH REF: 002

Card 2/2

RADZIVILOV, Ye.N. Prinsipal uchastiy ANJONOV, V.S. USHAKOV, V.B.,  
kand.tekhn.nauk, red.; KIRZHNEI, TS.Ya., tekhn.red.

[Computers. Very low frequency range devices] Elektronnye  
matematicheskie mashiny. Pribory infraniskogo diapazona  
chastot. Katalog. [n.p.] TSentr.biuro tekhn.informatsii  
priborostroeniia i sredstv avtomatizatsii, 1958. 70 p.  
(MIRA 14:1)

1. Moscow. Nauchno-issledovatel'skiy institut schetnogo ma-  
shinostroyeniya.

(Electronic calculating machines) (Electric meters)

ANTONOV, V.S.

Cutter for machining pulley grooves for vee-belt transmissions.

Stan.i instr. 33 no.12:34 D '62.

(MIRA 16:1)

(Metal-cutting tools)

ANTONOV, V.S.

Electrically driven ship for the conquest of the  
Arctic. The water & Transportation numbers  
2 and 3. March-February, 1933.

1. ANTONOV, V.S.

2. USSR (600)

"The Role of Rivers in the Regimes of Arctic Seas." Trudy vtorogo vsesoyuznogo geograficheskogo s'yezda, Volume II, 1948 (307-311)

9. Meteorologiya i Gidrologiya, No. 3, 1949.

Report U-2551, 30 Oct 52.

✓ 610-252

551.545(47)

Antonyuk, V. S. O kllr nlicheskom raznoobrazii Tuzy. (Climatic regionalization of Tuva, 10 refs. DIC--The au' describes the general characteristics of the climate of Tuva, in particular the temperature and wind characteristics, and then gives a detailed account of regional climates with particular reference to the dependence of climate upon relief. Seven climatic regions are established and they are shown on a map. These climatic regions are: the western valley steppe zone, eastern valley steppe zone, forest steppe zone of the north-western ridges and mountains, the mountain rock steppes of the southern mountain slopes, the desert steppe zone of the Ula-Nur basin, the mountain forest zone and the high mountain zone. Subject Headings: 1. Climatic classifications 2. Climate of Tuva 3. Tuva, Asiatic U.S.S.R.--I.L.P.

1954. 551.545(47) Nov./Dec. 1954.

ИИВ 1616-4, V S.

USSR/Physics of the Atmosphere - Dynamic Meteorology, M-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36082

Author: Antonov, V. S., Baranov, N. P., Makhover, Z. M.

Institution: None

Title: Certain Results of Applying the Suggestions by K. I. Kashin and M. V. Gritsenko to the Prediction of the Emergence of Caspian Cyclones

Original

Periodical: Meteorol. i gidrologiya, 1955, No 6, 34-35

Abstract: For the sake of verification, an analysis was made of 32 aerologically-interpreted cyclones in the regions of the northern Caucasus, the Caspian, and the Povolzh'ye. In 30 cases the cyclones moved parallel to the axis of the tongue of heat on the 500 mb isobaric surface thus, confirming the correctness of the above statement. An example illustrating the motion of the cyclone in accordance with the above assumption is given.

Card 1/1

Fedorov, M. K., Antonov, V. S., Doronina, N. A., Gidrologiya rek Sovetskoy  
Arktiki (Hydrology of the rivers of the Soviet Arctic), Leningrad Morsk. Transport  
(Marine Transport), 1956, 96 pages (RZhG<sub>o</sub>ofiz 11/57-9884 K) (Book)



ANTONOV, V.S.; MAKHOVER, Z.M.

What do isotherm charts reflect at the 500 millibar level? Meteor.1  
gidrol. no.9:32 S '56. (MLRA 9:11)

(Atmospheric temperature)

ANTONOV, V.S.; BARANOV, N.P.; MAKHOVER, Z.M.

Forecasting the appearance of Caspian cyclones in the southeastern  
European region of the U.S.S.R. Trudy TSIP no.42:3-10 '56.  
(MLRA 9:11)

1. Voronezhskoye gidrometbyuro.  
(Russia, Southern--Cyclones)

ANTONOV, V.S.

Dividing the catchment area of Arctic seas into climatic regions.  
Probl. Arkt. no.2:97-105 '57. (MIRA 11:12)  
(Russia, Northern--Climate)

ANTONOV, V.S.

Effect of continental discharges on the currents of the Arctic  
Ocean. Probl.Sev. no.1:52-64 '58. (MIRA 11:12)

1. Arkticheskiy nauchno-issledovatel'skiy institut.  
(Arctic Ocean--Hydrology)